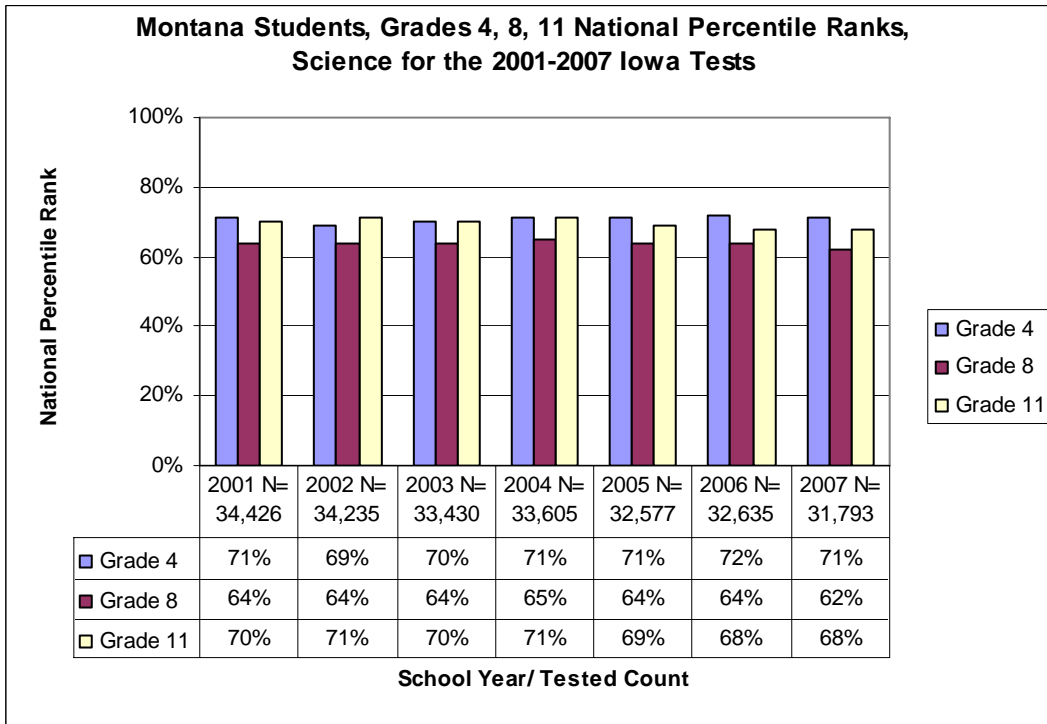


## Science, Grades 4, 8, and 11

**Chart 1: 4, 8, 11 SC**

The chart below shows the National Percentile Ranks for grades 4, 8, and 11.

- In 2001, grade 4 scored an NPR of 71%, grade 8 an NPR of 64%, and grade 11 an NPR of 70%.
- In 2007, the NPR for grade 4 is the same as in 2001, 71%. The grade 8 and 11 NPR's in 2007 are two percentage points below 2001, 62% and 68% respectively.



**Table 1: 4, 8, 11 SC**

Science National Percentile Rank for each disaggregation across Montana in 2001-2007

Groups	Grade 4							Grade 8							Grade 11						
	2001	2002	2003	2004	2005	2006	2007	2001	2002	2003	2004	2005	2006	2007	2001	2002	2003	2004	2005	2006	2007
All Students	71%	69%	70%	71%	71%	72%	71%	64%	64%	64%	65%	64%	64%	62%	70%	71%	70%	71%	69%	68%	68%
Students Without Disabilities	72%	71%	72%	73%	73%	74%	73%	67%	68%	67%	68%	68%	68%	66%	72%	73%	73%	73%	72%	71%	71%
Students With Disabilities	50%	46%	51%	55%	55%	53%	52%	36%	34%	35%	37%	34%	34%	32%	32%	34%	34%	34%	31%	31%	31%
Female Students	70%	68%	70%	70%	70%	71%	71%	65%	66%	66%	66%	66%	66%	64%	72%	73%	73%	72%	71%	71%	70%
Male Students	72%	70%	70%	72%	72%	73%	72%	63%	63%	62%	64%	62%	63%	60%	67%	68%	68%	69%	67%	64%	67%
Native American Students	50%	49%	48%	52%	51%	53%	50%	42%	41%	43%	43%	43%	42%	40%	51%	48%	46%	47%	43%	45%	44%
White Students	73%	72%	73%	74%	74%	75%	74%	67%	68%	67%	68%	67%	67%	65%	71%	72%	73%	73%	71%	70%	71%
Students on Free/Reduced Lunch	59%	58%	60%	61%	62%	63%	60%	53%	53%	52%	55%	53%	53%	50%	58%	58%	59%	58%	56%	54%	54%
LEP*	NA	35%	33%	41%	35%	39%	36%	NA	32%	29%	30%	30%	30%	28%	NA	40%	41%	37%	35%	33%	32%

\* LEP 2001 data were incomplete.

**Table 2: 4, 8, 11 SC**

Science: The table below shows the percentage of students for each disaggregation scoring in each performance category in grades 4, 8, and 11 for the 2001-2007 Iowa Tests.

Groups/Year		Grade 4				Grade 8				Grade 11			
		Advanced Stanines 8-9	Proficient Stanines 5-7	NP Stanines 4	Novice Stanines 1-3	Advanced Stanines 8-9	Proficient Stanines 5-7	NP Stanines 4	Novice Stanines 1-3	Advanced Stanines 8-9	Proficient Stanines 5-7	NP Stanines 4	Novice Stanines 1-3
All Students	2001	22%	60%	10%	8%	18%	60%	12%	10%	21%	60%	9%	10%
	2002	21%	60%	10%	9%	18%	59%	12%	11%	23%	58%	9%	10%
	2003	22%	60%	10%	8%	17%	60%	12%	11%	22%	59%	9%	10%
	2004	23%	61%	10%	6%	17%	62%	12%	9%	23%	58%	9%	10%
	2005	17%	63%	13%	7%	17%	60%	12%	12%	22%	57%	9%	12%
	2006	18%	63%	12%	7%	17%	59%	12%	12%	21%	56%	10%	13%
	2007	18%	60%	13%	9%	16%	59%	12%	14%	21%	57%	10%	12%
Students Without Disabilities	2001	24%	61%	9%	7%	20%	62%	11%	7%	22%	62%	8%	8%
	2002	22%	61%	10%	7%	19%	62%	11%	8%	25%	60%	7%	8%
	2003	23%	61%	9%	7%	19%	62%	11%	8%	24%	61%	8%	8%
	2004	24%	62%	9%	5%	19%	65%	10%	7%	25%	60%	7%	8%
	2005	18%	64%	12%	6%	19%	62%	10%	8%	24%	59%	8%	9%
	2006	19%	64%	11%	6%	19%	63%	10%	8%	23%	58%	9%	10%
	2007	19%	62%	12%	7%	18%	62%	11%	10%	23%	59%	9%	9%
Students With Disabilities	2001	8%	53%	20%	19%	3%	37%	24%	37%	2%	39%	21%	38%
	2002	6%	51%	20%	23%	3%	34%	25%	38%	2%	39%	23%	36%
	2003	8%	53%	20%	19%	2%	39%	23%	36%	3%	39%	22%	36%
	2004	9%	56%	19%	16%	3%	38%	27%	32%	3%	39%	22%	36%
	2005	7%	52%	23%	17%	3%	37%	23%	37%	3%	34%	24%	39%
	2006	5%	51%	23%	20%	2%	35%	24%	40%	2%	34%	20%	44%
	2007	6%	47%	23%	24%	2%	32%	23%	43%	3%	31%	23%	43%
Female Students	2001	21%	61%	10%	8%	16%	65%	11%	8%	21%	64%	8%	7%
	2002	19%	62%	11%	8%	17%	63%	11%	9%	23%	62%	8%	7%
	2003	21%	62%	10%	7%	17%	63%	12%	8%	22%	63%	8%	7%
	2004	20%	63%	10%	6%	16%	65%	12%	7%	22%	62%	8%	8%
	2005	15%	65%	13%	7%	17%	63%	11%	9%	22%	61%	8%	9%
	2006	15%	65%	12%	7%	17%	63%	11%	9%	22%	59%	8%	10%
	2007	16%	63%	13%	8%	15%	64%	11%	10%	21%	61%	9%	10%
Male Students	2001	24%	59%	9%	8%	20%	55%	12%	12%	21%	57%	10%	12%
	2002	22%	58%	11%	9%	18%	56%	13%	13%	23%	55%	9%	13%
	2003	22%	59%	10%	9%	17%	57%	13%	13%	22%	55%	10%	13%
	2004	25%	59%	10%	6%	18%	58%	12%	12%	24%	54%	9%	13%
	2005	19%	61%	13%	7%	18%	56%	12%	14%	22%	53%	11%	14%
	2006	20%	61%	12%	7%	18%	55%	12%	15%	20%	52%	11%	17%
	2007	19%	58%	13%	10%	17%	54%	13%	17%	22%	53%	11%	15%

Groups/Year		Grade 4				Grade 8				Grade 11			
		Advanced Stanines 8-9	Proficient Stanines 5-7	NP Stanines 4	Novice Stanines 1-3	Advanced Stanines 8-9	Proficient Stanines 5-7	NP Stanines 4	Novice Stanines 1-3	Advanced Stanines 8-9	Proficient Stanines 5-7	NP Stanines 4	Novice Stanines 1-3
American Indian Students	2001	8%	52%	20%	20%	4%	46%	21%	29%	7%	55%	18%	19%
	2002	6%	55%	20%	19%	4%	44%	24%	28%	7%	57%	13%	23%
	2003	6%	52%	21%	21%	5%	48%	21%	25%	6%	54%	17%	23%
	2004	8%	56%	20%	16%	4%	51%	21%	24%	6%	55%	17%	22%
	2005	4%	54%	24%	18%	6%	46%	20%	27%	4%	52%	17%	27%
	2006	7%	50%	26%	17%	4%	47%	21%	27%	5%	49%	18%	27%
	2007	5%	50%	24%	21%	4%	45%	20%	31%	7%	50%	17%	26%
White Students	2001	20%	60%	18%	2%	20%	62%	11%	8%	22%	61%	8%	9%
	2002	23%	62%	8%	7%	20%	62%	10%	8%	25%	59%	7%	9%
	2003	24%	61%	9%	6%	19%	62%	11%	8%	24%	59%	8%	8%
	2004	25%	62%	9%	5%	19%	63%	11%	7%	25%	58%	8%	9%
	2005	19%	64%	11%	5%	19%	62%	10%	9%	24%	58%	8%	10%
	2006	19%	65%	10%	6%	19%	61%	10%	9%	23%	57%	9%	12%
	2007	20%	62%	11%	7%	18%	60%	11%	11%	23%	57%	9%	11%
Students on Free/ Reduced Lunch	2001	14%	52%	18%	16%	8%	55%	18%	18%	11%	59%	14%	16%
	2002	12%	60%	14%	14%	8%	55%	18%	19%	13%	58%	12%	17%
	2003	12%	61%	15%	13%	8%	55%	18%	19%	12%	60%	12%	16%
	2004	13%	62%	15%	10%	9%	58%	16%	16%	13%	57%	13%	17%
	2005	10%	60%	19%	11%	9%	56%	17%	19%	12%	55%	14%	19%
	2006	10%	60%	18%	12%	9%	54%	17%	20%	11%	54%	13%	21%
	2007	9%	57%	19%	15%	8%	53%	18%	22%	11%	55%	14%	20%
LEP*	2001	Na	Na	Na	Na	Na	Na	Na	Na	Na	Na	Na	Na
	2002	1%	46%	24%	29%	1%	33%	30%	36%	4%	49%	16%	31%
	2003	2%	38%	27%	33%	0%	32%	24%	44%	2%	52%	18%	27%
	2004	3%	49%	26%	22%	1%	31%	26%	42%	3%	46%	22%	29%
	2005	1%	39%	29%	31%	1%	31%	23%	45%	3%	39%	23%	35%
	2006	2%	39%	34%	25%	1%	31%	28%	40%	1%	36%	25%	37%
	2007	1%	41%	29%	29%	0%	29%	24%	47%	2%	39%	21%	39%

\*LEP 2001 data were incomplete.

**Table 3: 4, 8, 11 SC**

Customized Skills Reports: Montana Science Standards tested in the 2001-2007 Iowa Tests

Standard			Design, conduct, evaluate and communicate investigations	Understand physical and chemical systems	Understand the structures and functions of living things	Understand Earth's systems and interactions	Understand the impact of science and technology on society
Grade 4	# of Items		19	5*	10	8	2*
	Percent Correct	01	60%	69%	67%	67%	58%
		02	60%	68%	66%	66%	58%
		03	61%	67%	66%	68%	57%
		04	62%	67%	67%	69%	58%
		05	62%	68%	67%	68%	57%
		06	63%	68%	67%	69%	56%
		07	62%	67%	66%	68%	55%
Grade 8	# of Items		28	14	7	8*	3*
	Percent Correct	01	68%	65%	59%	59%	55%
		02	67%	65%	58%	59%	55%
		03	67%	65%	58%	58%	54%
		04	68%	65%	59%	58%	54%
		05	68%	64%	58%	58%	54%
		06	68%	64%	58%	58%	55%
		07	67%	63%	57%	56%	53%
Grade 11	# of Items		45	9*	5*	1*	1*
	Percent Correct	01	56%	53%	59%	64%	61%
		02	57%	53%	59%	63%	60%
		03	56%	53%	59%	64%	61%
		04	57%	52%	60%	64%	60%
		05	55%	53%	58%	62%	60%
		06	55%	52%	58%	62%	60%
		07	55%	52%	57%	62%	59%
* The Iowa Tests measure the knowledge dimension of the Montana Standard, but do not adequately measure the application aspect.							

# **Tables 4a and 4b: 11 SC**

ACT Science Reasoning results for the high school graduating classes of 2001-2007

	<b>Average Score All National</b>	<b>Average Score All Montana</b>	<b>Average Score White Montana</b>	<b>Average Score American Indian Montana</b>
2001	21.0	21.9	22.1	18.4
2002	20.8	21.8	21.9	18.25
2003	20.8	21.7	22.0	18.5
2004	20.9	21.7	22.0	18.1
2005	20.9	21.8	22.1	17.9
2006	20.9	21.8	22.0	18.1
2007	21.0	21.8	22.0	18.3

Number of Montana graduating classes of 2001-2007 participating in the ACT

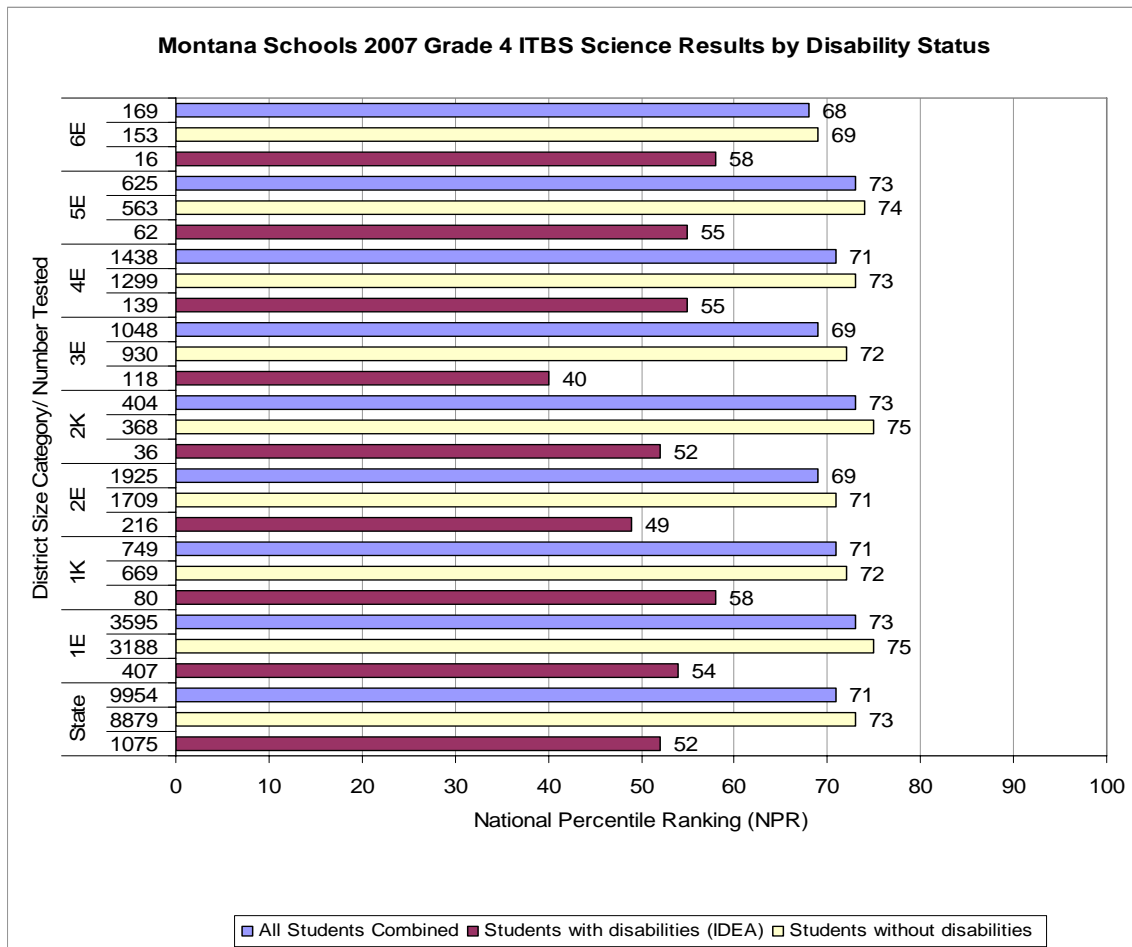
	<b>Total Montana Students</b>	<b>White Montana</b>	<b>American Indian Montana</b>
2001	6,641	5,699	319
2002	6,368	5,460	300
2003	6,470	5,514	282
2004	6,255	5,259	300
2005	6,178	5,154	312
2006	6,033	4,896	269
2007	6,066	4,812	286

## **Table 5: 4, 8, 11 SC**

NAEP data from 1996, 2000 and 2005 are included to add the picture of student achievement in Science. Although NAEP data gives us another perspective to the picture of Montana students tested in these years, it is not a statewide assessment, but rather a representative random sampling of the students in 4<sup>th</sup> and 8<sup>th</sup> grades in the years identified.

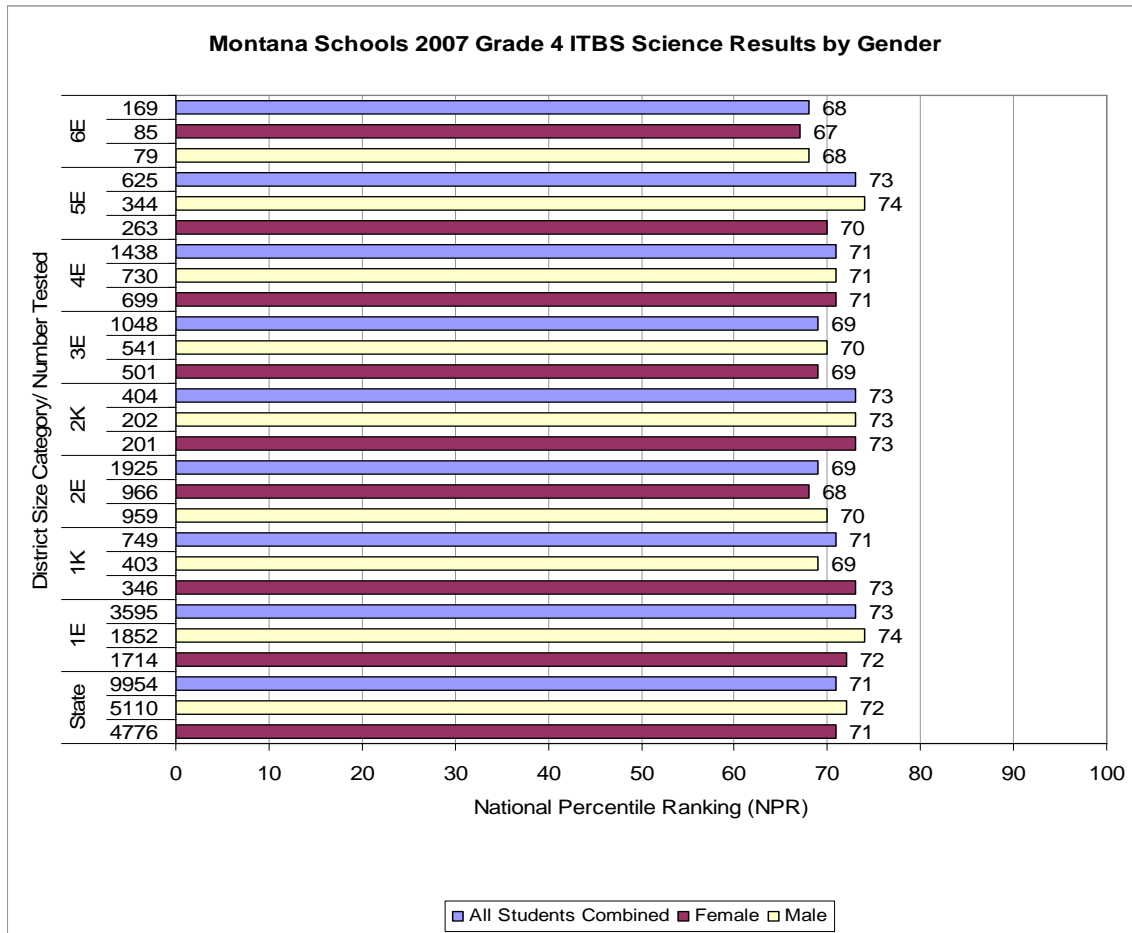
	<b>Average Score</b>					
<b>Grade:Year</b>	<b>All National</b>	<b>White National</b>	<b>American Indian National</b>	<b>All Montana</b>	<b>White Montana</b>	<b>American Indian Montana</b>
<b>4: 2000</b>	150	160	140	160	164	145
<b>4: 2005</b>	149	161	139	160	163	139
<b>8: 1996</b>	150	159	148	162	166	139
<b>8: 2000</b>	151	162	134	162	168	143
<b>8: 2005</b>	147	159	134	162	165	135

**Chart 4.1 SC**



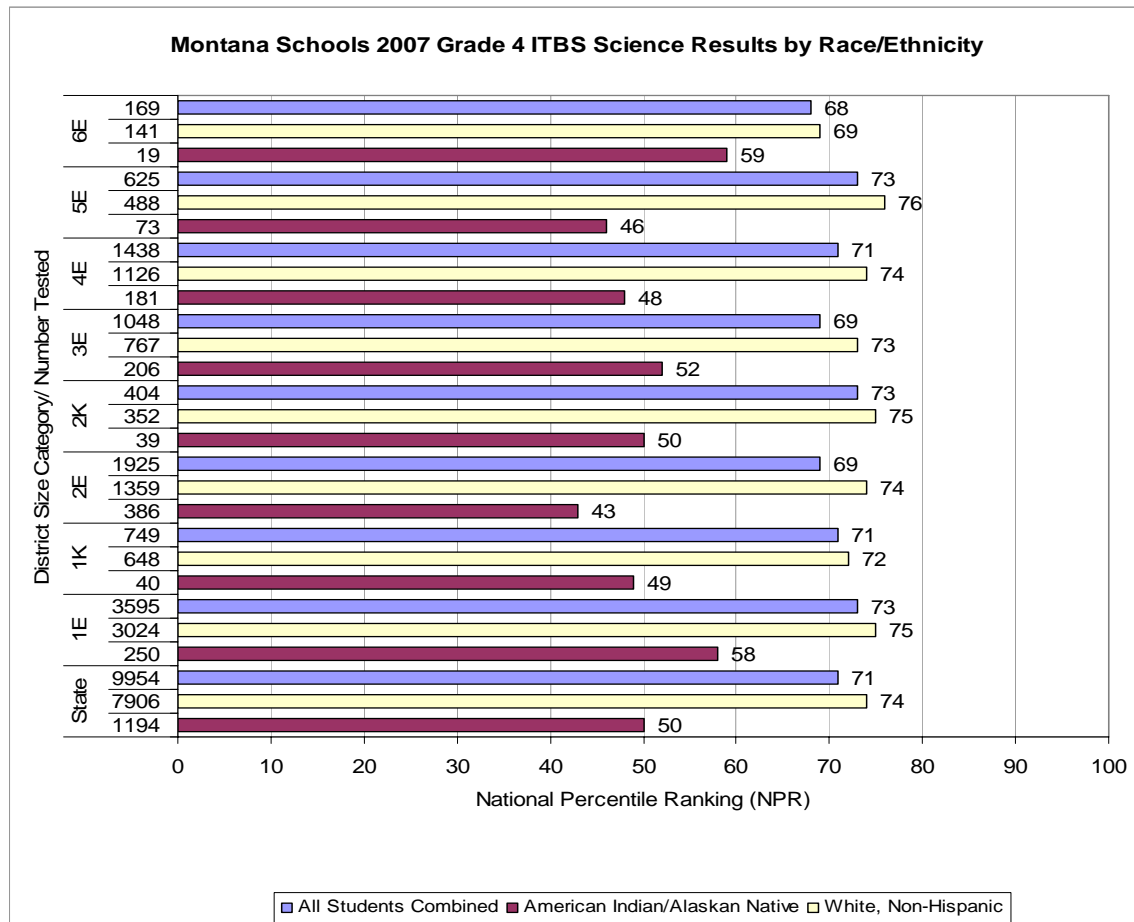
1. All students
  - The Science NPR for all Montana grade 4 students is 71%, one percentage point below 2006.
2. Students without disabilities
  - Statewide, the NPR for students without disabilities is 73%, one percentage point below 2006. That number is stable across the state with all district size categories plus or minus 1-4 percentage points.
3. Students with disabilities
  - Statewide, the NPR for students with disabilities is 52%, one percentage point below 2006. That number is relatively stable across the state with most district size categories plus or minus 2-6 percentage points except 3E, where students averaged 40%.
4. Comparisons
  - Statewide, Montana students without disabilities scored 21 percentage points above students with disabilities, 73% and 52% respectively.

**Chart 4.2 SC**



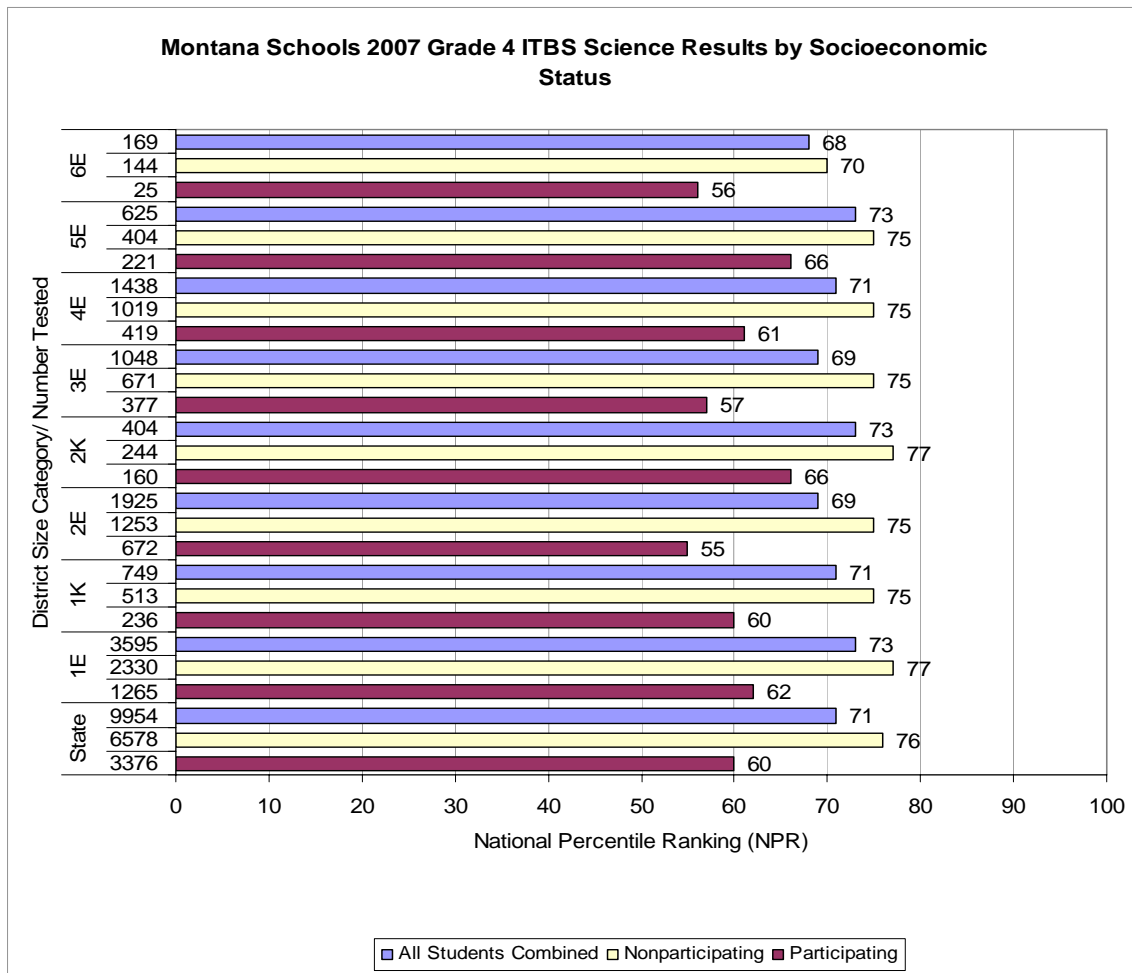
1. All students
  - The Science NPR for all Montana grade 4 students is 71%, one percentage point below 2006.
2. Female students
  - Statewide, the NPR for female students is the same as in 2006, 71%. That number is stable across the state with all district size categories plus or minus 1-4 percentage points.
3. Male students
  - Statewide, the NPR for male students is 72%, one percentage point below 2006. That number is stable across the state with all district size categories plus or minus 1-4 percentage points.
4. Comparisons
  - Statewide, male students scored one percentage point higher than female students, 72% and 71% respectively.

**Chart 4.3 SC**



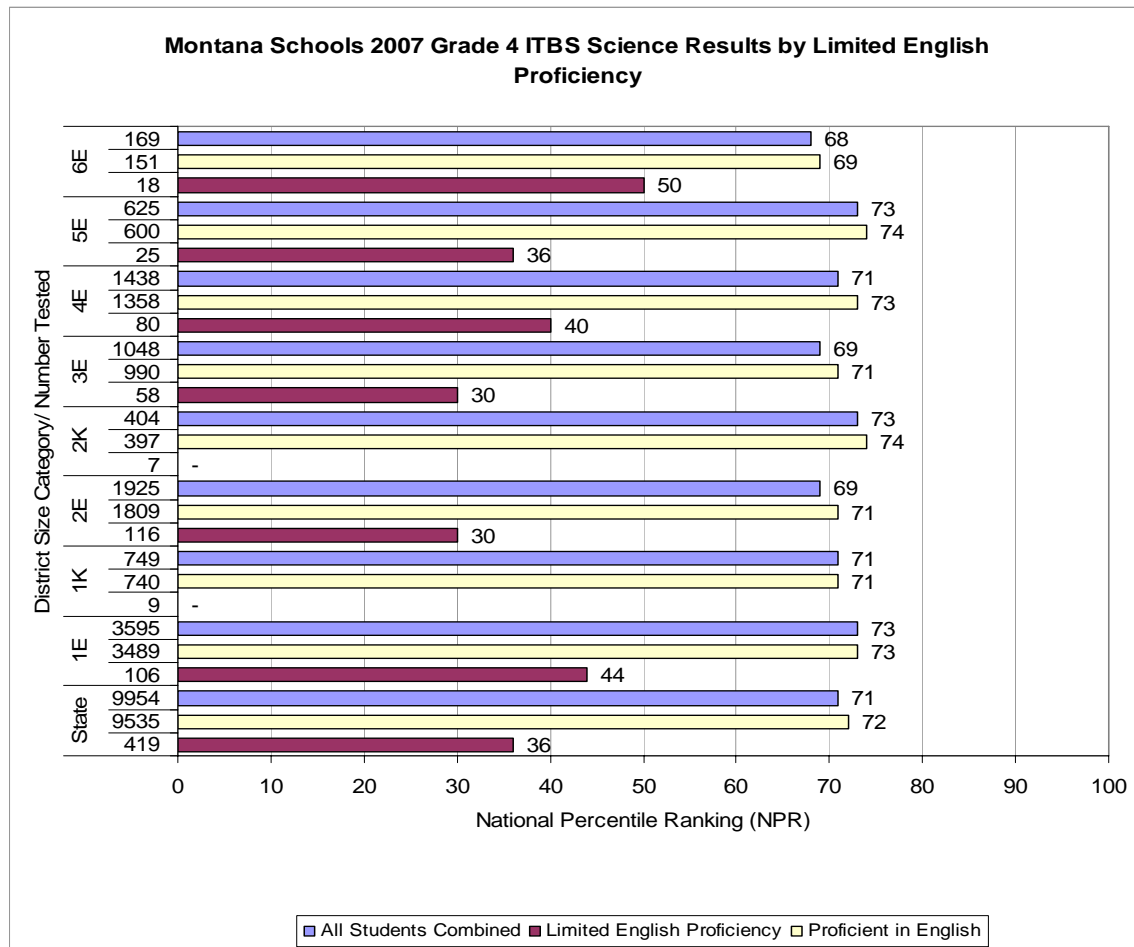
1. All students
  - The Science NPR for all Montana grade 4 students is 71%, one percentage point below 2006.
2. American Indian students
  - Statewide, the NPR for American Indian students is 50%, three percentage points below 2006. That number is somewhat stable across the state with most district size categories plus or minus 1-4 percentage points except 1E, where students averaged 58%, 2E where students averaged 43%, and 6E where the number of students tested is too small for comparisons.
3. White students
  - Statewide, the NPR for White students is 74%, one percentage point below 2006. That number is stable across the state with all district size categories plus or minus 1-5 percentage points.
4. Comparisons
  - Statewide, White students scored 24 percentage points above American Indian students, 74% and 50% respectively. That number is relatively stable.

**Chart 4.4 SC**



1. All students
  - The Science NPR for all Montana grade 4 students is 71%, one percentage point below 2006.
2. Students participating in free/reduced lunch programs
  - Statewide, the NPR for students participating in free/reduced lunch programs is 60%, three percentage points below 2006. That number is stable with all district size categories plus or minus 1-6 points.
3. Students not participating in free/reduced lunch programs
  - Statewide, the NPR for students not participating in free/reduced lunch programs is 76%, one percentage point below 2006. That number is stable with all district size categories plus or minus 1-6 points.
4. Comparisons
  - Statewide, students not participating in free/reduced lunch programs scored 16 percentage points above participating students, 76% and 60% respectively.

**Chart 4.5 SC**



\* To protect privacy, no results will be reported where the count of test takers is less than 10.

1. All students
  - The Science NPR for all Montana grade 4 students is 71%, one percentage point below 2006.
2. Students with limited English proficiency (LEP)
  - Statewide, the NPR for LEP students is 36%, three percentage points below 2006. The NPR scores vary among school size categories because of the wide variation in the number of LEP students tested.
3. Comparisons
  - Statewide, all Montana students scored 35 percentage points higher than limited English proficient students, 71% and 36% respectively. That number varies among school size categories because of the wide variation in the number of LEP students tested.